solvent, surfactant, and polymer, wherein the components are not [of] the same [type] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation can be delivered from an implantable drug delivery system such that the exit shear rate of the formulation is between about 1 and 1 x 10^{-7} reciprocal second.

Please add new claims 46, 47, and 48 as follows.

46. A method for preparing the stable formulation of claim 44 or 45 comprising combining the single phase viscous vehicle and beneficial agent under dry conditions and blending them under vacuum at elevated temperature to uniformly disperse the beneficial agent in the vehicle, and allowing the formulation to cool to room temperature.

47. The vehicle of claim 1, 3, or 4 wherein the viscosity of said vehicle is between about 10,000 and about 250,000 poise.

48. The formulation of claim 17, 18, 42, 43, 44, or 45 wherein the viscosity of said vehicle is between about 10,000 and about 250,000 poise.

A clean copy of the amended claims is enclosed with this response.

Remarks

Claims 1 and 3-45 are currently pending in this application. Applicants thank the Examiner for acknowledging the cancellation of Claim 2.

Claim Amendments

Claims 1, 3, 4, 10, 13, 17, 18, 33, 42, 43, 44, and 45 are being amended in this response. Claims 46, 47, and 48 are being added in this response. Applicants request that these amendments and new claims be entered. Enclosed with this response is a set of the pending claims marked up to show the above amendments. Also enclosed with this response is a clean set of claims.

Rejection under 35 USC § 112

Claims 1 and 3-45 have been rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3, 4, 17, 18, and 42-45 have been rejected on the basis that the word "type" is indefinite. The above claims have been amended to remove the indefiniteness of the word "type".

Claims 1 and 3-16 have been rejected on the basis that they are confusing. These claims have been amended to make them less confusing by pointing out more clearly both vehicle and formulation. The phrase in claims 1, 3, and 4 referring to the formulation has been removed. The phrase giving the viscosity range for the vehicle has been added to claims 1, 3, 4, 17, 18, 42, 43, 44, and 45 to clarify the type of vehicle being claimed. Support for the viscosity range is found on page 11, lines 11-18 of the subject application. These amendments should remove the confusion in the claims. Claim 33 has been amended to clarify that the beneficial agent is suspended in the vehicle. This amendment should remove the confusion about dispersion and suspension.

Claim 10 has been rejected on the basis that the abbreviation "gml" is indefinite. As the Examiner suggested in the Office Action, "gml" does represent

glycerol monolaurate. Claim 10 has been amended to recite the name glycerol monolaurate.

Claim 13 has been rejected on the basis that the term "Pluronic" is a trademark or tradename that renders the name indefinite. Claim 13 has been amended to recite that the name polyoxyethylenepolyoxypropylene for the Pluronic block copolymer. Support for the name is found on page 12, lines 4 and 5 of the subject application.

Claims 46, 47, and 48 have been added to the application. Claim 46 was added to the over come the dependency objection to claim 33. With the addition of claim 46, and the corresponding amendment in claim 33, the objection to claims 33-35 should be overcome. Claims 47 and 48 were added to further clarify the viscosity of the vehicle. Support for the viscosity range is found on page 11, lines 11-18 of the subject application.

Claim 42 has been amended to remove the duplicate phrase "wherein the components are not of the same type."

Rejection under 35 USC § 102(b) (Clark et al)

Claims 1, 3-7, 15, 22, 23, 27-29, 36, and 42-45 have been rejected under 35 USC § 102(b) as being anticipated by Clark et al. (US 5,374,620). The Examiner rejected claims 1, 3-7, 15, 22, 23, 27-29, 36, and 42-45, stating that '620 discloses a growth-promoting composition. The Official Action went on to state that the composition comprises liquid carriers or finely divided solid carriers (col. 12, lines 13 and 14); that the carriers are non-aqueous vehicles (col. 12, lines 20-22); and that the carrier contains minor amounts of ascorbic acid, low molecular weight polypeptides, proteins, polyvinylpyrrolidone, glycine, amino acids, carbohydrates, sugar alcohols and polysorbates or poloxamers or PEG (col. 12, lines 24-41). The Official Action goes on to state that in one

embodiment, the composition comprises polypropylene glycol or glycerol (col. 13, lines 15-18); and that in example 1, '620 teaches that the pump employed to deliver the composition can be implanted to continuously deliver the composition.

Applicants respectfully submit that the '620 patent does not anticipate the subject application. To anticipate claims in an application, the reference must show the identical invention in as complete detail as is contained in the subject claim [Richardson v. Suzuki Motor Co., 9 USPQ2d, 1913, 1920 (Fed. Cir. 1989)]. The elements must be arranged as required by the claim, but identity of terminology is not required [In re Bond 15 USPQ2d, 1566 (Fed. Cir. 1990).

The Examiner referred to column 12, lines 13 and 14. These two lines point out that the IGF-I and GH are each uniformly and intimately contacted with liquid carriers or finely divided solid carriers or both. This section of '620 does not refer to viscous single-phase non-aqueous vehicles, as do the claims of the subject application.

The Examiner referred to column 12, lines 20-22. This sentence of '620 refers to non-aqueous vehicles such as fixed oils and ethyl oleate, as well as liposomes. This section of '620 does not refer to viscous single-phase non-aqueous vehicles, as do the claims of the subject application.

The Examiner referred to column 12, lines 24-41. This paragraph of '620 refers to the addition of minor amounts of additives such as substances that enhance isotonicity and chemical stability. The Examiner has pointed out that the carrier contains minor amounts of a number of substances. This section of '620 does not refer to viscous single-phase non-aqueous vehicles, as do the claims of the subject application.

The Examiner referred to column 13, lines 15-18. When put in context of the paragraph, the phrase referred to by the Examiner refers to "osmolytes" or isotonic modifiers or osmotic adjuster that lends osmolality to the buffered solution. The compounds referred to by the Examiner are examples of such

"osmolytes". Also, this section of '620 refers to buffered solutions. Such solutions are normally aqueous in nature. The subject invention teaches non-aqueous vehicles.

The Examiner referred to Example 1 as pointing out that the IGF-I and GH solutions can be used in implanted pumps to continuously deliver recombinant human des (1-3)-IGF-I. If one reads Example 1, it is clear that the solution being discussed is an aqueous solution of citrate buffer. The subject invention teaches non-aqueous vehicles.

To determine if the '620 patent anticipates Applicants' invention, one must look at the '620 document at the time of Applicants' invention. One cannot use hindsight to read the '620 patent and pull compounds out of long lists of compounds. One must look at the '620 document as a whole at the time of Applicants' invention and see if all of the elements of the Applicants' invention are shown in as complete a detail as contained in the Applicants' claims.

The '620 patent discusses combination products of IGF-I and GH. If one looks at the '620 patent as a whole, one sees that the specification contains lists of possible formulation ingredients and methods for delivery. However, the bulk of the discussion and all of the examples deal with aqueous formulations. There is no arrangement of elements as required in Applicants' claims and there is no detail showing Applicants' invention. The claims of the subject application teach non-aqueous vehicles and formulations. Thus, Applicants believe that citation of '620 as a 102(b) reference is not appropriate.

Rejection under 35 USC § 102(b) (Sparks et al)

Claims 1, 3-7, 15, 22, 23, 27-29, 36, and 42-45 have been rejected under 35 USC § 102(b) as being anticipated by Sparks et al (US 4,952,402). The Examiner stated that the '402 patent discloses a liquid composition that can be

formulated into tablets. The liquid composition comprises controlled release powder of discrete micro-particles (col. 1, lines 38-43). In one embodiment the composition comprises a solution of polymer or polymers in a solvent, active ingredient dissolved or dispersed in the polymer solution (col. 1, lines 44-53). In another embodiment, the composition is a controlled release antibiotic formulation in the form of powders, non-aqueous suspension of powders or reconstituted aqueous suspensions of powders (col. 1, lines 55-61). The polymer could be a synthetic polymer such as polyvinylpyrrolidone (col. 3, lines 15-35). Nutritional supplement such as ascorbic acid or tocopherol may be present in the composition (col. 4, lines 51-53). The invention may be used as implants or ocular inserts (col. 7, lines 63 and 64). A specific example comprises theophylline active ingredient, polymer, vegetable oil, glycerin and polysorbate (col. 6, lines 38-54 and col. 15, lines 20-25).

The Examiner referred to col. 1, lines 55-61. This section of the summary discusses controlled release antibiotic formulations that are substantially free of taste of the antibiotic. The formulations are powders, non-aqueous suspensions of powders, or reconstitutable aqueous suspensions of powders. The non-aqueous suspension of powders refers to powders that are prepared according to col. 1, lines 44-53 (active dispersed in polymer solution and then solvent removed to form micro-particles). Examples 1, 2, 3, 11, 18, 19, and 22 of '402 discuss taste. All of these examples use "pharmasomes" (defined in col. 3, lines 4-7) which are prepared as discussed in col. 1, lines 44-53 (active dispersed in polymer solution which then has the solvent removed to form "dry" micro-particles). Thus, the reference to col. 1, lines 55-61 is a reference to "dry" micro-particles that contain both active and polymer. The active ingredient in Applicants' application is not mixed with a polymer to form a micro-particle and then mixed with a further liquid vehicle.

The Examiner referred to col. 3, lines 15-35. This section discusses the suspension of powders in a liquid vehicle. Again, the powders being described are "dry" micro-particles containing both active and polymer. These powders are suspended in a vehicle. The polymers that can be used to form the "dry" micro-particles are listed in cols. 3 and 4. The Examiner referred to polyvinyl-pyrrolidone. This is only one of a large list of polymers. In col. 3, lines 36-39, it is stated that the polymer to be used is governed by its toxicity and its compatibility with the particular active ingredient being used. There is no discussion of the viscosity of the polymer. And again, the vehicle in this section of '402 is not the polymer.

The Examiner referred to col. 4, lines 51-53. Here the Examiner points out that nutritional supplements can be used. Again, the active ingredients are mixed with polymer and made into "dry" micro-particles.

The Examiner referred to col. 6, lines 38-54. If the Examiner had read further down col. 6 it would have been clear that the active ingredient is in the form of polymer micro-particles. The mixture of active ingredient and polymer, along with a liquid external phase, are emulsified and the solvent is removed to form "dry" micro-particles.

The Examiner referred to col. 7, lines 63 and 64. This sentence states that the particles may be used in implants and ocular inserts. Again, the particles are "dry" micro-particles (active plus polymer from which the solvent is removed to form "dry" micro-particles).

The Examiner referred to col. 15, lines 20-25. This is part of Example 12. In this Example theophylline micro-particles, "pharmasomes", are suspended in a liquid vehicle. The vehicle is a mixture of a Sorbitol solution, Glycerin and Polysorbate 80. The solvent for the Sorbitol solution is not given, however, Sorbitol is known to be soluble in water and Remington's *Pharmaceutical Sciences* book (18th edition, 1990) lists Sorbitol Solution as a water solution. This

means that Example 12 is an aqueous formulation, while Applicants' formulations are non-aqueous. Also, the formulation discussed in Example 12 of '402 is one in which the active ingredient is formulated into a polymer "dry" micro-particle and the micro-particles are suspended in a vehicle.

The '402 patent does not teach the non-aqueous viscous single phase vehicle of Applicants' application. Nor does the '402 patent teach the suspension or dispersion of an active ingredient in a non-aqueous viscous single phase vehicle. Thus, Applicants believe that citation of '402 as a 102(b) reference is not appropriate

Double Patenting

The Examiner has provisionally rejected claims 1, 3-8, 10, 12, and 15-45 under 35 U.S.C. 101 as claiming the same invention as claims 1-42 of co-pending Application No. 09/497,422. Applicant notes that this is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The Examiner has provisionally rejected claims 1-45 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-42 of co-pending Application No. 09/497,422. Applicant notes that this is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

The Examiner has objected to claims 33-35 because claim 33 depends from claims 41 or 42. Claim 33 has been amended to remove the dependency objection. Claim 46 was added to claim the dependency from claims 44 or 45.

The Examiner has observed that the phrase "wherein the components are not of the same type" occurs twice in claim 42. Claim 42 has been amended to remove the duplicate phrase.

Conclusions

For at least the above reasons Applicants believe that the pending claims are allowable and request the Examiner to reconsider and allow this application. Should any questions arise in connection with this Response, or, the application in general, the Examiner is respectfully requested to telephone the undersigned attorney so that prosecution may be expedited.

Respectfully submitted,

By Pauline Ann Clarke
Pauline Ann Clarke
Registration No. 29,783

ALZA Corporation
1900 Charleston Road
P.O. Box 7210
Mountain View, CA 94039-7210
(650) 564-5560

Dated: June 27, 2002

Claims:

1. A stable non-aqueous single phase biocompatable viscous vehicle comprising two components selected from the group consisting of solvent, surfactant, and polymer, wherein the two components are not the same, and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise.

3. A stable non-aqueous single phase biocompatable viscous vehicle comprising at least two components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not the same, and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise.

4. A stable non-aqueous single phase biocompatable viscous vehicle which comprises three components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not the same, and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise.

5. The vehicle of claim 1, 3 or 4 wherein said solvent is selected from the group carboxylic acid esters, polyhydric alcohols, polymers of polyhydric alcohols, fatty acids, oils, propylene carbonate, lauryl alcohol, and esters of polyhydric alcohols.

6. The vehicle of claim 1, 3, or 4 wherein said surfactant is selected from the group esters of polyhydric alcohols, ethoxylated castor oil, polysorbates, esters or ethers of saturated alcohols, and polyoxyethylenepolyoxypropylene block copolymers.

7. The vehicle of claim 1, 3, or 4 wherein said polymer is selected from the group polyesters, pyrrolidones, esters or ethers of unsaturated alcohols, and polyoxyethylenepolyoxypropylene block copolymers.

8. The vehicle of claim 1 wherein the ratios of the components are in the range of 40:60 to 60:40.

9. The vehicle of claim 4 wherein the ratios of the components are in the range of about 5% to about 60% for solvent, about 5% to about 40% for surfactant, and about 5% to about 60% for polymer.

B3

10. The vehicle of claim 4 wherein the polymer is polyvinlypyrrolidone, the surfactant is glycerol monolaurate, and the solvent is lauryl lactate.

11. The vehicle of claim 10 wherein the ratios of the components are in the range of about 35% to about 45% for solvent, about 5% to about 15% for surfactant, and about 50% to about 55% for polymer.

12. The vehicle of claim 4 wherein the polymer is polyvinlypyrrolidone, the surfactant is polysorbate, and the solvent is lauryl lactate.

B4

13. The vehicle of claim 4 wherein the polymer is poly(D,L-Lactide), the surfactant is a polyoxyethylenepolyoxypropylene block copolymer, and the solvent is propylene carbonate.

14. The vehicle of claim 4 wherein the polymer is polyvinylpyrrolidone, the surfactant is myristyl lactate, and the solvent is lauryl alcohol.

15. The vehicle of claim 1, 3, or 4 which comprises an antioxidant.

16. The vehicle of claim 15 wherein said antioxidant is selected from the group consisting of tocopherol, ascorbic acid, ascorbyl palmitate, butylated hydroxyanisole, butylated hydroxytoluene, and propyl gallate.

17. A stable non-aqueous viscous protein formulation comprising

a) at least one beneficial agent, and

b) a non-aqueous single phase biocompatible viscous vehicle comprising two components selected from the group consisting of solvent, surfactant, and polymer, wherein the two components are not the same and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation is capable of being uniformly dispensed over an extended period of time at a low flow rate.

18. A non-aqueous formulation comprising at least one beneficial agent uniformly suspended in a non-aqueous single phase biocompatible viscous vehicle comprising two components selected from the group consisting of solvent, surfactant, and polymer, wherein the two components are not the same and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation can be delivered from an implantable drug delivery system such that the exit shear rate of the formulation is between about 1 and 1 x 10^{-7} reciprocal second.

19. The formulation of claim 17 wherein said formulation is stable at body temperature for extended periods of time.

20. The formulation of claim 17 which comprises at least about 0.1% (w/w) beneficial agent.

21. The formulation of claim 17 which comprises at least about 10% (w/w) beneficial agent.

22. The formulation of claim 17 wherein said beneficial agent is selected from the group consisting of peptide, protein, nucleotide, hormone, virus, or antibody.

23. The formulation of claim 22 wherein said beneficial agent is a protein.

24. The formulation of claim 17 which is stable at 65° C for at least about 2 months.

25. The formulation of claim 17 which is stable at 37° C for at least about 3 months.

26. The formulation of claim 17 which is stable at 37° C for at least about one year.

27. The formulation of claim 17 which is adapted for use in an implantable drug delivery device.

28. The formulation of claim 17 wherein said vehicle is selected from the group consisting of solvent, surfactant and polymer.

29. The formulation of claim 17 wherein said vehicle comprises an antioxidant.

30. The formulation of claim 17 comprising a beneficial agent which has been dried to a low moisture content prior to incorporation in said formulation.

31. The formulation of claim 17 which is stable after sterilization.

32. A method for preparing the stable single phase viscous vehicle of claim 1, 3, or 4 comprising the steps of (1) blending the ingredients at elevated

temperature under dry conditions to allow them to liquify, and (2) allowing the liquid from step (1) to cool to room temperature.

B6

33. A method for preparing the stable formulation of claim 17 comprising combining the single phase viscous vehicle and beneficial agent under dry conditions and blending them under vacuum at elevated temperature to uniformly suspend the beneficial agent in the vehicle, and allowing the formulation to cool to room temperature.

34. The method of claim 33 wherein at least about 0.1% (w/w) beneficial agent is suspended in said vehicle.

35. The method of claim 33 wherein at least about 10% (w/w) beneficial agent is suspended in said vehicle.

36. A method for treating a subject suffering from a condition which may be alleviated by administration of a beneficial agent comprising administering to said subject a therapeutically effective amount of the formulation of Claim 17.

37. The method of claim 36 wherein said administration is parenteral administration.

38. The method of claim 36 wherein said administration is long-term continuous administration.

39. The method of claim 36 wherein said administration is accomplished by use of an implantable drug delivery system.

40. The method of claim 36 wherein said daily administration continues for a period selected from the group consisting of about 3 months, about 6 months, and about 12 months.

41. The method of claim 40 wherein said daily administration is accomplished using an implantable drug delivery system.

42. A stable non-aqueous viscous protein formulation comprising

a) at least one beneficial agent, and

b) a non-aqueous single phase biocompatible viscous vehicle comprising at least two components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not the same and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation is capable of being uniformly dispensed over an extended period of time at a low flow rate.

43. A stable non-aqueous viscous protein formulation comprising

a) at least one beneficial agent, and

b) a non-aqueous single phase biocompatible viscous vehicle which comprises three components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not the same and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation is capable of being uniformly dispensed over an extended period of time at a low flow rate.

44. A non-aqueous formulation comprising at least one beneficial agent uniformly suspended in a non-aqueous single phase biocompatible viscous vehicle comprising at least two components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not the same and wherein the viscosity of the vehicle is between about 1,000 and about

10,000,000 poise, which formulation can be delivered from an implantable drug delivery system such that the exit shear rate of the formulation is between about 1 and 1 x 10^{-7} reciprocal second.

45. A non-aqueous formulation comprising at least one beneficial agent uniformly suspended in a non-aqueous single phase biocompatible viscous vehicle which comprises three components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not the same and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation can be delivered from an implantable drug delivery system such that the exit shear rate of the formulation is between about 1 and 1 x 10^{-7} reciprocal second.

46. A method for preparing the stable formulation of claim 44 or 45 comprising combining the single phase viscous vehicle and beneficial agent under dry conditions and blending them under vacuum at elevated temperature to uniformly disperse the beneficial agent in the vehicle, and allowing the formulation to cool to room temperature.

47. The vehicle of claim 1, 3, or 4 wherein the viscosity of said vehicle is between about 10,000 and about 250,000 poise.

48. The formulation of claim 17, 18, 42, 43, 44, or 45 wherein the viscosity of said vehicle is between about 10,000 and about 250,000 poise.

Claims:

1. [Twice Amended] A stable non-aqueous single phase biocompatable viscous vehicle comprising two components selected from the group consisting of solvent, surfactant, and polymer, wherein the two components are not [of] the same [type], [said vehicle being capable of suspending beneficial agents and homogeneously dispensing said beneficial agent over an extended period of time at body temperature and at low flow rates] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise.

3. [Twice Amended] A stable non-aqueous single phase biocompatable viscous vehicle comprising at least two components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not [of] the same [type], [said vehicle being capable of suspending beneficial agents and homogeneously dispensing said beneficial agent over an extended period of time at body temperature and at low flow rates] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise.

4. [Twice Amended] A stable non-aqueous single phase biocompatable viscous vehicle which comprises three components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not [of] the same [type], [said vehicle being capable of suspending beneficial agents and homogeneously dispensing said beneficial agent over an extended period of time at body temperature and at low flow rates] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise.

5. The vehicle of claim 1, 3 or 4 wherein said solvent is selected from the group carboxylic acid esters, polyhydric alcohols, polymers of polyhydric

alcohols, fatty acids, oils, propylene carbonate, lauryl alcohol, and esters of polyhydric alcohols.

6. The vehicle of claim 1, 3, or 4 wherein said surfactant is selected from the group esters of polyhydric alcohols, ethoxylated castor oil, polysorbates, esters or ethers of saturated alcohols, and polyoxyethylenepolyoxypropylene block copolymers.

7. The vehicle of claim 1, 3, or 4 wherein said polymer is selected from the group polyesters, pyrrolidones, esters or ethers of unsaturated alcohols, and polyoxyethylenepolyoxypropylene block copolymers.

8. The vehicle of claim 1 wherein the ratios of the components are in the range of 40:60 to 60:40.

9. The vehicle of claim 4 wherein the ratios of the components are in the range of about 5% to about 60% for solvent, about 5% to about 40% for surfactant, and about 5% to about 60% for polymer.

10. [Amended] The vehicle of claim 4 wherein the polymer is polyvinlypyrrolidone, the surfactant is [gml] <u>glycerol monolaurate</u>, and the solvent is lauryl lactate.

11. The vehicle of claim 10 wherein the ratios of the components are in the range of about 35% to about 45% for solvent, about 5% to about 15% for surfactant, and about 50% to about 55% for polymer.

12. The vehicle of claim 4 wherein the polymer is polyvinlypyrrolidone, the surfactant is polysorbate, and the solvent is lauryl lactate.

13. [Amended] The vehicle of claim 4 wherein the polymer is poly(D,L-Lactide), the surfactant is a [Pluronic] polyoxyethylenepolyoxypropylene block copolymer, and the solvent is propylene carbonate.

14. The vehicle of claim 4 wherein the polymer is polyvinylpyrrolidone, the surfactant is myristyl lactate, and the solvent is lauryl alcohol.

15. The vehicle of claim 1, 3, or 4 which comprises an antioxidant.

16. The vehicle of claim 15 wherein said antioxidant is selected from the group consisting of tocopherol, ascorbic acid, ascorbyl palmitate, butylated hydroxyanisole, butylated hydroxytoluene, and propyl gallate.

17. [Twice Amended] A stable non-aqueous viscous protein formulation comprising

a) at least one beneficial agent, and

b) a non-aqueous single phase biocompatible viscous vehicle comprising two components selected from the group consisting of solvent, surfactant, and polymer, wherein the two components are not [of] the same [type] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation is capable of being uniformly dispensed over an extended period of time at a low flow rate.

18. [Twice Amended] A non-aqueous formulation comprising at least one beneficial agent uniformly suspended in a non-aqueous single phase biocompatible viscous vehicle comprising two components selected from the group consisting of solvent, surfactant, and polymer, wherein the two components are not [of] the same [type] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation can be

delivered from an implantable drug delivery system such that the exit shear rate of the formulation is between about 1 and 1 x 10^{-7} reciprocal second.

19. The formulation of claim 17 wherein said formulation is stable at body temperature for extended periods of time.

20. The formulation of claim 17 which comprises at least about 0.1% (w/w) beneficial agent.

21. The formulation of claim 17 which comprises at least about 10% (w/w) beneficial agent.

22. The formulation of claim 17 wherein said beneficial agent is selected from the group consisting of peptide, protein, nucleotide, hormone, virus, or antibody.

23. The formulation of claim 22 wherein said beneficial agent is a protein.

24. The formulation of claim 17 which is stable at 65° C for at least about 2 months.

25. The formulation of claim 17 which is stable at 37° C for at least about 3 months.

26. The formulation of claim 17 which is stable at 37° C for at least about one year.

27. The formulation of claim 17 which is adapted for use in an implantable drug delivery device.

28. The formulation of claim 17 wherein said vehicle is selected from the group consisting of solvent, surfactant and polymer.

29. The formulation of claim 17 wherein said vehicle comprises an antioxidant.

30. The formulation of claim 17 comprising a beneficial agent which has been dried to a low moisture content prior to incorporation in said formulation.

31. The formulation of claim 17 which is stable after sterilization.

32. A method for preparing the stable single phase viscous vehicle of claim 1, 3, or 4 comprising the steps of (1) blending the ingredients at elevated temperature under dry conditions to allow them to liquify, and (2) allowing the liquid from step (1) to cool to room temperature.

33. [Twice Amended] A method for preparing the stable formulation of claim 17[, 41, or 42] comprising combining the single phase viscous vehicle and beneficial agent under dry conditions and blending them under vacuum at elevated temperature to uniformly [disperse] <u>suspend</u> the beneficial agent in the vehicle, and allowing the formulation to cool to room temperature.

34. The method of claim 33 wherein at least about 0.1% (w/w) beneficial agent is suspended in said vehicle.

35. The method of claim 33 wherein at least about 10% (w/w) beneficial agent is suspended in said vehicle.

36. A method for treating a subject suffering from a condition which may be alleviated by administration of a beneficial agent comprising administering to said subject a therapeutically effective amount of the formulation of Claim 17.

37. The method of claim 36 wherein said administration is parenteral administration.

38. The method of claim 36 wherein said administration is long-term continuous administration.

39. The method of claim 36 wherein said administration is accomplished by use of an implantable drug delivery system.

40. The method of claim 36 wherein said daily administration continues for a period selected from the group consisting of about 3 months, about 6 months, and about 12 months.

41. The method of claim 40 wherein said daily administration is accomplished using an implantable drug delivery system.

42. [Amended] A stable non-aqueous viscous protein formulation comprising

a) at least one beneficial agent, and

b) a non-aqueous single phase biocompatible viscous vehicle comprising at least two components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not [of] the same [type] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, [wherein the components are not of the same type,] which formulation is capable of being uniformly dispensed over an extended period of time at a low flow rate.

43. [Amended] A stable non-aqueous viscous protein formulation comprising

a) at least one beneficial agent, and

b) a non-aqueous single phase biocompatible viscous vehicle which comprises three components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not [of] the same [type] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation is capable of being uniformly dispensed over an extended period of time at a low flow rate.

44. [Amended] A non-aqueous formulation comprising at least one beneficial agent uniformly suspended in a non-aqueous single phase biocompatible viscous vehicle comprising at least two components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not [of] the same [type] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation can be delivered from an implantable drug delivery system such that the exit shear rate of the formulation is between about 1 and 1×10^{-7} reciprocal second.

45. [Amended] A non-aqueous formulation comprising at least one beneficial agent uniformly suspended in a non-aqueous single phase biocompatible viscous vehicle which comprises three components selected from the group consisting of solvent, surfactant, and polymer, wherein the components are not [of] the same [type] and wherein the viscosity of the vehicle is between about 1,000 and about 10,000,000 poise, which formulation can be delivered from an implantable drug delivery system such that the exit shear rate of the formulation is between about 1 and 1×10^{-7} reciprocal second.

46. A method for preparing the stable formulation of claim 44 or 45 comprising combining the single phase viscous vehicle and beneficial agent under dry conditions and blending them under vacuum at elevated temperature to uniformly disperse the beneficial agent in the vehicle, and allowing the formulation to cool to room temperature.

47. The vehicle of claim 1, 3, or 4 wherein the viscosity of said vehicle is between about 10,000 and about 250,000 poise.

48. The formulation of claim 17, 18, 42, 43, 44, or 45 wherein the viscosity of said vehicle is between about 10,000 and about 250,000 poise.